Claims

1. A method of calibrating a system which includes a device for differentially amplifying low frequency components and high frequency components in a received signal, and in which the amplified signal is transmitted from a first end of a transmission line to a second end of the transmission line, the method including:

repeatedly generating pulses of known duration;

using the device to amplify low frequency components and high frequency components in the generated pulses to different degrees to form a modified pulse, and transmit the modified pulses along the line from the first end;

measuring the duration of the received pulses received at the second end; and

increasing the degree to which high frequency components are amplified relative to low frequency components until the measured duration of the received pulses is equal to the known duration of the generated pulses to within a predetermined tolerance.

2. A method according to claim 1 in which the duration of the received pulses is measured using a unit which samples the signal received at the second end of the line based on a clock signal having a tunable phase, the method including varying the phase of the clock signal until a given sample output from the sampler coincides with an end of each received pulse, and measuring the duration of received pulses by taking multiple samples across the received pulses.

3. A method according to claim 1 in which the device is arranged in normal use to transmit pulses having respective durations which are integer numbers of clock cycles, the pulses of known duration each being a single clock cycle in length.

4. A method according to claim 1 in which the system has two transmission lines, the device transmitting equal and opposite signals into a

first end of each transmission line and the duration of the received pulse being measured using signals received at the second end of the transmission lines.

5. A data transmission system which includes:

a pre-emphasis unit for receiving a signal, differentially amplifying low frequency components and high frequency components in the received signal and transmitting the amplified signal into a first end of a transmission line,

a pulse generator for repeatedly generating pulses of known duration and supplying them to the pre-emphasis unit;

a receiver located at a second end of the transmission line for receiving the pulses and measuring the duration of the received pulses received; and

a control unit for controlling the pre-emphasis unit to increase the degree to which high frequency components are amplified relative to low frequency components until the measured duration of the received pulses is equal to the known duration of the generated pulses to within a predetermined tolerance.

6. A system according to claim 5 in which the receiver comprises a mixer unit for modifying the phase of a clock signal and sampler unit arranged to receive the signal at the second end of the line and sample the received signal based on the modified clock signal, and a mixer control unit for controlling the mixer unit to vary the phase of the clock signal until a given sample from the sampler coincides with an end of the received pulse and measure the duration of the received pulses by taking samples across the received pulse.

7. A system according to claim 5 arranged in normal use to transmit pulses having respective durations which are an integer number of clock cycles, the pulse generator generating the pulses of known duration to be a single clock cycle in length.

8. A system according to claim 5 in which there are two transmission lines, the pre-emphasis unit being arranged to transmit equal and opposite

signals into a first end of each transmission line and the receiver being arranged to measure the duration of the received pulse using signals received at the second end of the transmission lines.

5